

CHARGE NUMBER: 2105
PROJECT TITLE: Filter and Cigarette Process Development
PERIOD COVERED: November, 1973
PROJECT LEADER: J. M. Washington
DATE OF REPORT: December 12, 1973

I. Extrusion Systems Development

The extruder drive system failed electronically, and the cost of calling in a serviceman approached the cost of a new unit. The new unit was shipped and installed with minimum delay. Advantages of the new drive include built-in diagnostic circuits, ease of access to all components, and the reserve capacity to power a larger, higher speed extruder drive motor.

Modification of the Molins bed, including replacing the cutter, conveyor, internal and external gears, and the "ribbon" wheel, is now complete. Both regular (RF) and square-fluted (SF-18) filters were produced to all specifications, and length uniformity was demonstrated. The collapsed-tube puller for string-up has been proved satisfactory, and the plug dryer and garniture cooling systems are adequate.

Length gears are on hand to cut plug lengths of 90, 100, 108, 120, 114, and 126 mm.

II. FFM-5 Product Development

Using a modified glue pot system (heated), "star wheel" glue transfer, and the slotted contact roll gave sufficient operability to the Hot Melt Hauni operation to produce test samples. Cigarette samples had 60% dilution and 70% flute blockage. With dilution adjusted to 20% by blocking dilution holes, analytical results were:

FTC Tar	13.0
TPM	15.2
Nicotine	0.92
H ₂ O	1.3
P.C.	8.2

These values are nearly equivalent to Marlboro Lights.

Hot melts evaluated were Eastobond A-167S¹, Compounders, Inc. #4E449² and #4E469³. Further tests, both for processing conditions and hot melt trials will continue.

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III. Granular Space Fill Development

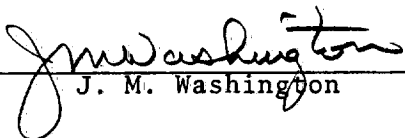
Process development has continued on the Baumgartner equipment. A very heavy combining wrap (0.005-0.006 inches) is required to prevent the collapse of granular filled space during smoking. With medium weight combining wrap available (0.004 inches) 85-90 percent space fill was achieved at 780 4-up plugs per minute.

A modified Vibra-Screw screw feeder has been designed to meter granular materials into the filling hopper, and a quote for \$3704 with a ten week delivery has been received.

Further testing using a heavy combining wrap from Ecusta will be conducted during December.

References

1. Research Notebook No. 6360, p. 16, 17, 18
2. Research Notebook No. 6360, p. 19
3. Research Notebook No. 6360, p. 20


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